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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Christophe MALEVILLE

Confirmation No.: 4834

Patent No.: 6,941,795 B2

Application No.: 10/664,782

Patent Date: September 13, 2005

Filing Date: September 16, 2003

For: METHOD FOR EVALUATING PARTICLE CONCENTRATIONS IN CLEAN ROOM OR MACHINE MINI-ENVIRONMENT

Attorney Docket No.: 4717-6600

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 C.F.R. § 1.322

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Patentee hereby respectfully requests the issuance of a Certificate of Correction in connection with the above-identified patent. The correction is listed on the attached Form PTO-1050. The correction requested is as follows:

Column 8, line 5 (claim 8, line 1), change "me" to -- method --.

The requested correction is for an error that appears to have been made by the Office. Therefore, no fee is believed to be due for this request. Should any fees be required, however, please charge such fees to Winston & Strawn LLP Deposit Account No. 50-1814. Please issue a Certificate of Correction in due course.

Respectfully submitted,

9/20/05
Date

Allan A. Fanucci, Reg. No. 30,256

WINSTON & STRAWN LLP
Customer No. 28765

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DC:434872.1

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.: 6,941,795 B2
DATED: September 13, 2005
INVENTORS: Maleville

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 8:
Line 5, change "me" to -- method --.

region of interest can be approached by using a stepwise backwards abrasion of the material of at least one of these wafers, to reach one of the surfaces **2**,**16** that includes diffused particles for analysis.

FIG. **2** is a schematic diagram of a concentration profile of the bonded test wafer pair **1**,**5** after the annealing step. The concentration of diffused contaminants such as boron or phosphorus is shown as function of the depth. The depth d=0 corresponds to the respective surfaces **2** and **16** of the wafers **1** and **5**.

FIG. **3** is a schematic diagram of a SIMS-concentration profile **21** of the test wafer **1** in comparison to a SIMS-concentration profile **20** of the reference wafer **3**. The concentration of diffused contaminants is shown as a function of the analyzed depth d. The depth d=0 corresponds to the respective surfaces **2** and **4** of the wafers **1** and **3**. The concentration of the targeted species, such as boron or phosphorus, near the surface of the test wafer **1** is higher than the concentration near the surface of the reference wafer **3**. The difference **22** between the test profile **21** and the reference profile **20** is integrated to evaluate the surface dose of contaminants.

What is claimed is:

1. A method for evaluating particle concentrations in the atmosphere of a clean room or similar environment comprising:

exposing a test surface of a test substrate to the atmosphere for a test time to capture an amount of particles;

bonding the test surface that contains the captured particles to a surface of a second substrate after the test time to avoid loss of captured particles;

analyzing the amount of captured particles; and

comparing the analyzed amount of particles with a reference amount of particles from a reference substrate to determine the particle concentration in the environment.

2. The method of claim **1** which further comprises cleaning at least the test surface of the test substrate prior to exposing it to the atmosphere.

3. The method of claim **1** wherein the second substrate is another test substrate.

4. The method of claim **3** which further comprises separating the test pair of substrates before conducting the analyzing.

5. The method of claim **1** which further comprises abrading away at least one of the substrates before conducting the analyzing.

6. A method for evaluating particle concentrations in the atmosphere of a clean room or similar environment comprising:

exposing a test surface of a test substrate to the atmosphere for a test time to capture an amount of particles;

analyzing the amount of captured particles; and

comparing the analyzed amount of particles with a reference amount of particles from a reference substrate to determine the particle concentration in the environment;

wherein the capturing of the particles is accomplished by annealing the test substrate.

7. The method of claim **6** wherein the annealing is performed for about 1 to about 3 hours.

8. The method of claim **6** wherein the annealing is performed at a temperature of between about 800° C. and about 1050° C.

9. A method for evaluating particle concentrations in the atmosphere of a clean room or similar environment comprising:

exposing a test surface of a test substrate to the atmosphere for a test time to capture an amount of particles;

analyzing the amount of captured particles; and

comparing the analyzed amount of particles with a reference amount of particles from a reference substrate to determine the particle concentration in the environment;

wherein the analyzing of particle amounts comprises evaluating an atomic concentration profile of the particles captured by the test substrate.

10. The method of claim **9** wherein the atomic concentration profile is determined by a Secondary Ion Mass Spectroscopy (SIMS) device.

11. The method of claim **9** wherein the atomic concentration profile is determined at the test surface of the test substrate.

12. The method of claim **11**, wherein the test surface is analyzed over a thickness of about 100 to 500 nanometers.

13. The method of claim **1** which further comprises producing a series of test substrates at predetermined intervals to periodically monitor the particle content of the environment.

14. The method of claim **12** wherein a test substrate is produced at intervals of about every 30 minutes.

15. The method of claim **1** which further comprises cleaning the reference substrate to provide an essentially particle-free reference.

16. The method of claim **1** which further comprises bonding a reference surface of the reference substrate with a second reference surface of a second reference substrate to form a reference substrate pair.

17. The method of claim **16** which further comprises annealing the reference substrate pair.

18. The method of claim **17** wherein the reference substrate pair is annealed at an annealing temperature and for an annealing time that are essentially equal to those used for the test substrate.

19. The method of claim **1** which further comprises analyzing a particle concentration of the reference substrate.

20. The method of claim **19** wherein the analyzing of the particle concentration of the reference substrate is conducted in the same manner as that used for the test substrate.

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